

SEQUENCE LISTING

<110> Burnham, Martin K. R.

<120> dexB

<130> GM10087

<150> 60/057,876

<151> 1997-09-02

<160> 4

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 1608

<212> DNA

<213> Streptococcus pneumoniae

<220>

<221> CDS

<222> (1)...(1605)

<400> 1

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48

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Glu | Lys | Trp | Trp | His | Asn | Ala | Val | Val | Tyr | Gln | Val | Tyr | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

aag agt ttt atg gat agt aat gga gat gga gtt ggt gat ttg cca ggt
96

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Ser | Phe | Met | Asp | Ser | Asn | Gly | Asp | Gly | Val | Gly | Asp | Leu | Pro | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |

att acc agt aag ttg gac tat cta gct aag tta gga atc aca tgc att
144

Ile Thr Ser Lys Leu Asp Tyr Leu Ala Lys Leu Gly Ile Thr Ser Ile

35

40

45

tgg ctt tct ccc gtt tat gac agc cct atg gat gat aat ggc tac gat
192

Trp Leu Ser Pro Val Tyr Asp Ser Pro Met Asp Asp Asn Gly Tyr Asp
50 55 60

att gct gat tat caa gcg att gcg gct att ttt gga acc atg gag gac
240

Ile Ala Asp Tyr Gln Ala Ile Ala Ala Ile Phe Gly Thr Met Glu Asp
65 70 75 80

atg gat gaa ctg att gca gaa gct aag aag cgt gat atc cgt atc atc
288

Met Asp Glu Leu Ile Ala Glu Ala Lys Lys Arg Asp Ile Arg Ile Ile
85 90 95

atg gac ttg gtg gtc aat cat acc tcg gat gag cat gcc tgg ttt gta
336

Met Asp Leu Val Val Asn His Thr Ser Asp Glu His Ala Trp Phe Val
100 105 110

gag gcc tgt gaa aat cct aat agc cct gag cga gac tac tat atc tgg
384

Glu Ala Cys Glu Asn Pro Asn Ser Pro Glu Arg Asp Tyr Tyr Ile Trp
115 120 125

cgc gat gaa ccc aat gac cta gat tct atc ttt agt ggg tct gct tgg
432

Arg Asp Glu Pro Asn Asp Leu Asp Ser Ile Phe Ser Gly Ser Ala Trp
130 135 140

gaa tac gat gaa aag tca ggt caa tac tat ctc cac ttt ttc agc aag
480

Glu Tyr Asp Glu Lys Ser Gly Gln Tyr Tyr Leu His Phe Phe Ser Lys
145 150 155 160

aaa cag ccg gat ctc aac tgg gaa aat gaa aaa ctt cgc cag aaa att
528

Lys Gln Pro Asp Leu Asn Trp Glu Asn Glu Lys Leu Arg Gln Lys Ile

165

170

175

tat gag atg atg aac ttc tgg att gat aag ggt att ggt ggt ttc cgt
576

Tyr Glu Met Met Asn Phe Trp Ile Asp Lys Gly Ile Gly Gly Phe Arg
180 185 190

atg gat gtt att gac atg att ggc aaa att cct gac gag aag gta gtc
624

Met Asp Val Ile Asp Met Ile Gly Lys Ile Pro Asp Glu Lys Val Val
195 200 205

aat aat ggt cct atg ctc cat ccc tat ctc aag gaa atg aat cag gcg
672

Asn Asn Gly Pro Met Leu His Pro Tyr Leu Lys Glu Met Asn Gln Ala
210 215 220

acc ttt gga gat aag gat ctc ttg aca gta ggg gag act tgg gga gca
720

Thr Phe Gly Asp Lys Asp Leu Leu Thr Val Gly Glu Thr Trp Gly Ala
225 230 235 240

acg cca gag att gcc aaa ctc tac tct gat cca aag ggg caa gaa ttg
768

Thr Pro Glu Ile Ala Lys Leu Tyr Ser Asp Pro Lys Gly Gln Glu Leu
245 250 255

tct atg gtc ttc cag ttt gaa cat atc ggt ctt cag tat cag gaa ggt
816

Ser Met Val Phe Gln Phe Glu His Ile Gly Leu Gln Tyr Gln Glu Gly
260 265 270

cag cct aaa tgg cac tat caa aaa gag ctg aat atc gct aag tta aaa
864

Gln Pro Lys Trp His Tyr Gln Lys Glu Leu Asn Ile Ala Lys Leu Lys
275 280 285

gaa atc ttc aac aaa tgg cag aca gag tta gga gtt gag gac ggc tgg
912

Glu Ile Phe Asn Lys Trp Gln Thr Glu Leu Gly Val Glu Asp Gly Trp

290

295

300

aat tcc ctc ttc tgg aac aac cat gac ctc cct cgt att gtc tca atc
960

Asn Ser Leu Phe Trp Asn Asn His Asp Leu Pro Arg Ile Val Ser Ile
305 310 315 320

tgg gga aat gac caa gaa tac cgc gaa aaa tct gcc aaa gcc ttt gca
1008

Trp Gly Asn Asp Gln Glu Tyr Arg Glu Lys Ser Ala Lys Ala Phe Ala
325 330 335

atc ttg ctt cat ctt atg aga gga act cct tat atc tac caa ggt gag
1056

Ile Leu Leu His Leu Met Arg Gly Thr Pro Tyr Ile Tyr Gln Gly Glu
340 345 350

gag att ggg atg acc aac tat ccg ttt gaa aca ctg gat caa gta gaa
1104

Glu Ile Gly Met Thr Asn Tyr Pro Phe Glu Thr Leu Asp Gln Val Glu
355 360 365

gat att gaa tct ctc aac tat gcg cgt gag gct ctt gaa aaa ggt gtt
1152

Asp Ile Glu Ser Leu Asn Tyr Ala Arg Glu Ala Leu Glu Lys Gly Val
370 375 380

ccg atg caa gaa atc atg gac agt atc cgt gtt att gga cgt gac aat
1200

Pro Met Gln Glu Ile Met Asp Ser Ile Arg Val Ile Gly Arg Asp Asn
385 390 395 400

gcc cgt acc cct atg caa tgg gac gag agc aaa aac gct ggt ttc tca
1248

Ala Arg Thr Pro Met Gln Trp Asp Glu Ser Lys Asn Ala Gly Phe Ser
405 410 415

aca ggt caa cct tgg ttg gca gtt aat cca aat tac gag atg atc aac
1296

Thr Gly Gln Pro Trp Leu Ala Val Asn Pro Asn Tyr Glu Met Ile Asn

420

425

430

gtc caa gaa gcg ctg gca aat cca gat tct att ttc tat acc tat cag
1344

Val Gln Glu Ala Leu Ala Asn Pro Asp Ser Ile Phe Tyr Thr Tyr Gln
435 440 445

aaa ctg gtc caa att cgc aag gag aat agt tgg cta att cga gct gac
1392

Lys Leu Val Gln Ile Arg Lys Glu Asn Ser Trp Leu Ile Arg Ala Asp
450 455 460

ttt gaa ttg ctt gat acg gct gat aag gtc ttt gct tat ata cgt aag
1440

Phe Glu Leu Leu Asp Thr Ala Asp Lys Val Phe Ala Tyr Ile Arg Lys
465 470 475 480

gat ggc gac cgt cgc ttc cta gtt gtg gct aac ttg tcc aat gaa gag
1488

Asp Gly Asp Arg Arg Phe Leu Val Val Ala Asn Leu Ser Asn Glu Glu
485 490 495

caa gac ttg aca gta gaa gga aaa gtc aaa tct gtc ttg att gaa aac
1536

Gln Asp Leu Thr Val Glu Gly Lys Val Lys Ser Val Leu Ile Glu Asn
500 505 510

acc cta gct caa gaa gtc ttt gaa aaa caa atc tta gtt cca tgg gat
1584

Thr Leu Ala Gln Glu Val Phe Glu Lys Gln Ile Leu Val Pro Trp Asp
515 520 525

gct ttc tgt gtg gaa tta cta taa
1608

Ala Phe Cys Val Glu Leu Leu
530 535

<210> 2

<211> 535

<212> PRT

<213> Streptococcus pneumoniae

<400> 2

Met Gln Glu Lys Trp Trp His Asn Ala Val Val Tyr Gln Val Tyr Pro
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Lys Ser Phe Met Asp Ser Asn Gly Asp Gly Val Gly Asp Leu Pro Gly
20 25 30
Ile Thr Ser Lys Leu Asp Tyr Leu Ala Lys Leu Gly Ile Thr Ser Ile
35 40 45
Trp Leu Ser Pro Val Tyr Asp Ser Pro Met Asp Asp Asn Gly Tyr Asp
50 55 60
Ile Ala Asp Tyr Gln Ala Ile Ala Ala Ile Phe Gly Thr Met Glu Asp
65 70 75 80
Met Asp Glu Leu Ile Ala Glu Ala Lys Lys Arg Asp Ile Arg Ile Ile
85 90 95
Met Asp Leu Val Val Asn His Thr Ser Asp Glu His Ala Trp Phe Val
100 105 110
Glu Ala Cys Glu Asn Pro Asn Ser Pro Glu Arg Asp Tyr Tyr Ile Trp
115 120 125
Arg Asp Glu Pro Asn Asp Leu Asp Ser Ile Phe Ser Gly Ser Ala Trp
130 135 140
Glu Tyr Asp Glu Lys Ser Gly Gln Tyr Tyr Leu His Phe Phe Ser Lys
145 150 155 160
Lys Gln Pro Asp Leu Asn Trp Glu Asn Glu Lys Leu Arg Gln Lys Ile
165 170 175
Tyr Glu Met Met Asn Phe Trp Ile Asp Lys Gly Ile Gly Gly Phe Arg
180 185 190
Met Asp Val Ile Asp Met Ile Gly Lys Ile Pro Asp Glu Lys Val Val
195 200 205
Asn Asn Gly Pro Met Leu His Pro Tyr Leu Lys Glu Met Asn Gln Ala
210 215 220
Thr Phe Gly Asp Lys Asp Leu Leu Thr Val Gly Glu Thr Trp Gly Ala
225 230 235 240
Thr Pro Glu Ile Ala Lys Leu Tyr Ser Asp Pro Lys Gly Gln Glu Leu
245 250 255
Ser Met Val Phe Gln Phe Glu His Ile Gly Leu Gln Tyr Gln Glu Gly
260 265 270
Gln Pro Lys Trp His Tyr Gln Lys Glu Leu Asn Ile Ala Lys Leu Lys
275 280 285

Glu Ile Phe Asn Lys Trp Gln Thr Glu Leu Gly Val Glu Asp Gly Trp
 290 295 300
 Asn Ser Leu Phe Trp Asn Asn His Asp Leu Pro Arg Ile Val Ser Ile
 305 310 315 320
 Trp Gly Asn Asp Gln Glu Tyr Arg Glu Lys Ser Ala Lys Ala Phe Ala
 325 330 335
 Ile Leu Leu His Leu Met Arg Gly Thr Pro Tyr Ile Tyr Gln Gly Glu
 340 345 350
 Glu Ile Gly Met Thr Asn Tyr Pro Phe Glu Thr Leu Asp Gln Val Glu
 355 360 365
 Asp Ile Glu Ser Leu Asn Tyr Ala Arg Glu Ala Leu Glu Lys Gly Val
 370 375 380
 Pro Met Gln Glu Ile Met Asp Ser Ile Arg Val Ile Gly Arg Asp Asn
 385 390 395 400
 Ala Arg Thr Pro Met Gln Trp Asp Glu Ser Lys Asn Ala Gly Phe Ser
 405 410 415
 Thr Gly Gln Pro Trp Leu Ala Val Asn Pro Asn Tyr Glu Met Ile Asn
 420 425 430
 Val Gln Glu Ala Leu Ala Asn Pro Asp Ser Ile Phe Tyr Thr Tyr Gln
 435 440 445
 Lys Leu Val Gln Ile Arg Lys Glu Asn Ser Trp Leu Ile Arg Ala Asp
 450 455 460
 Phe Glu Leu Leu Asp Thr Ala Asp Lys Val Phe Ala Tyr Ile Arg Lys
 465 470 475 480
 Asp Gly Asp Arg Arg Phe Leu Val Val Ala Asn Leu Ser Asn Glu Glu
 485 490 495
 Gln Asp Leu Thr Val Glu Gly Lys Val Lys Ser Val Leu Ile Glu Asn
 500 505 510
 Thr Leu Ala Gln Glu Val Phe Glu Lys Gln Ile Leu Val Pro Trp Asp
 515 520 525
 Ala Phe Cys Val Glu Leu Leu
 530 535

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<211> 21

<212> DNA

<213> Streptococcus pneumoniae

<400> 3

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21

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<211> 20
<212> DNA
<213> Streptococcus pneumoniae

<400> 4
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20